DAVIES'

PRIMARY ARITHMETIC,

NEW YORK.
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PRIMARY

ARITHMETIC.

By CHARLES DAVIES, LL.D.,

AUTHOR OF A FULL COURSE OF MATHEMATICS.

New York:
A. S. Barnes & Burr,
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1863.

SUGGESTIONS.

1. Sensible objects should be used in all the elementary operations of numbers.

2. The *unit* of a number, and the number of units taken, should be dwelt upon in every example.

3. The idea of number is purely abstract, and can only be apprehended by the contemplation of sensible objects—individually, and collectively.

4. The eight units of science, arranged into classes in the Tables, should be carefully distinguished from each other.

5. The idea of the abstract unit, 1, comes from contemplating the denominate unit, 1 apple. The unit of currency, 1 dollar, is easily apprehended; and the foot-rule, or the yard-stick, will fix permanently in the mind the unit of length.

6. The unit of surface, is the square constructed on the unit of length; and a paper cube, constructed on this square, as a base, exhibits to the mind one of the units of volume. The gallon measure, and the half-bushel, are two other units of volume in common use.

7. The pound, is the most familiar unit of weight, and should be exhibited to every class of beginners. The day, is the familiar unit of time, and the degree, of angular measure.

Entered according to Act of Congress, in the year eighteen hundred and sixty-two,

BY CHARLES DAVIES,

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PREFACE.

The present work is designed for beginners, being adapted to the capacities and wants of very young children.

It commences with counting, by means of sensible objects, and these are employed through the entire work to illustrate and render familiar the elementary combinations of numbers.

The work is constructed on the plan of object teaching. The object is first presented to the mind, and then its number, in connection with other objects of the same kind. From these, the child readily passes to the idea of number in the abstract, derived as it is, directly, from sensible objects.

Each Lesson is designed to illustrate a single principle, or a set of simple combinations. All the Lessons are formed after a common model, and in harmony with each other. A leading practical question, with its analysis, indicates the object of the lesson. Then follow other similar questions, to be answered according to the *form of the analysis;* after which, the Table recapitulates what has been illustrated.

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The subject of Division has been introduced by *naming* the quotients of numbers divisible by 2, 3, 4, &c.; and these quotients are not treated as fractions—the term *fraction* being applied, in abstract numbers, only to the equal parts of 1, and in denominate numbers, to the equal parts of an *entire thing*, numerically denoted by 1. This principle of classification and naming, has not, to my knowledge, been used before, and as it forms the basis of a system, is deemed important.

The plan of this work requires the beginner to search out his way, by short and easy steps, to what lies before him. He is to use his faculties to discover principles, and not rely on his memory for rules to guide him. Hence, the Table is placed at the *end* of each Lesson, as the *result* of what has preceded; and not at the beginning, as heretofore, in all similar works.

The combination of the pictorial representation, the practical example, and the abstract table, in the order in which they are placed, and on pages facing each other, has not, I believe, been made before; and I hope it may prove a valuable aid in elementary instruction.

The reading of figures is one of the most useful exercises in object-teaching. The Lessons on that subject will, I am sure, attract the notice and meet the approval of Teachers.

Columbia College,
New York, May, 1862.

PRIMARY ARITHMETIC.

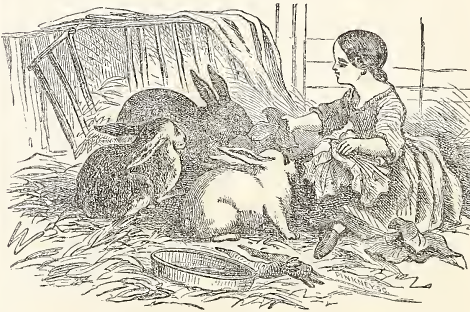
LESSON I

CHARLES, can you count? "I'll try, Sister." Which is your right hand? Which your left? How many hands have you? How many thumbs have you on your right hand? How many on your left? How many on both?

How many fingers have you on your right hand? How many on your left? How many on both? Counting the thumb with the fingers, how many on each hand? How many on both?

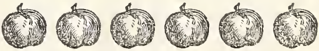
How many ears has the dog, Carlo? How many eyes has he? How many legs has he? How many feet?

LESSON II.

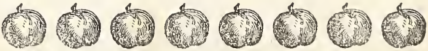


Jane has a few pet rabbits. She is very fond of them, and plays with them often. They are pretty little animals. See how tame and gentle they are. How many rabbits are there?

Jane feeds them with apples. See how they eat. Here are pictures of some apples.



How many apples are there in this row?



How many apples are there in this row?

LESSON III.

1. What is a unit? *Ans.* A single thing.

2. What is a number? *Ans.* A unit, or a collection of units.

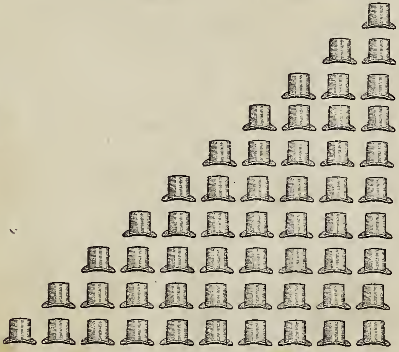
3. How may numbers be expressed? *Ans.* By words, by figures, and by letters.

4. What is counting? *Ans.* Counting is expressing consecutive numbers by words.

5. How many figures are there? *Ans.* Ten. Name them.

Naught,	One,	Two,	Three,	Four,	Five,	Six,	Seven,	Eight,	Nine.
0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

Count the hats in each of these rows.


1 One.
2 Two.
3 Three.
4 Four.
5 Five.
6 Six.
7 Seven.
8 Eight.
9 Nine.
10 Ten.

LESSON IV.

The ten figures of Arithmetic were first used in Arabia. The Arabs are a wandering people, live in tents, have fine horses and camels. This picture will remind you of the country from which we got our ten figures.

Ten	10	Nineteen	19
Eleven	11	Twenty	20
Twelve	12	Twenty-one	21
Thirteen	13	Twenty-two	22
Fourteen	14	Twenty-three	23
Fifteen	15	Twenty-four	24
Sixteen	16	Twenty-five	25
Seventeen	17	Twenty-six	26
Eighteen	18	Twenty-seven	27

LESSON V.

I.II.III.IV.V.
VI.VII.VIII.
IX.X.XI.XII.
PINKNEYS

Here is a Roman father teaching his son to count. The Romans used the seven letters, I, V, X, L, C, D, and M, to express numbers; thus,

One	I.	Eleven	XI.
Two	II.	Twelve	XII.
Three	III.	Thirteen	XIII.
Four	IV.	Fourteen	XIV.
Five	V.	Fifteen	XV.
Six	VI.	Sixteen	XVI.
Seven	VII.	Seventeen	XVII.
Eight	VIII.	Eighteen	XVIII.
Nine	IX.	Nineteen	XIX.
Ten	X.	Twenty	XX.

LESSON VI.

Addition is the operation of finding the sum of two or more numbers.

1. One apple and one apple, are how many apples? One and one are how many?

2. One apple and two apples, are how many apples? One and two are how many?

3. One apple and three apples, are how many apples? One and three are how many?

4. One apple and four apples, are how many apples? One and four are how many?

5. One apple and five apples, are how many apples? One and five are how many?

1. John has 1 apple in one hand, and 2 apples in the other hand; how many apples has he in both hands? 1 and 2 are how many? 2 and 1?

2. One apple and 3 apples, are how many apples? 1 and 3 are how many? 3 and 1?

3. Charles has 1 marble, and James gives him 5 marbles; how many marbles will Charles then have? 1 and 5 are how many? 5 and 1?

4. Joseph has 1 chestnut, and William gives him 7 chestnuts; how many chestnuts will Joseph then have? 1 and 7 are how many? 7 and 1?

5. One orange and 8 oranges, are how many oranges? 1 and 8 are how many? 8 and 1?

6. One lemon and 10 lemons, are how many lemons? 1 and 10 are how many? 10 and 1?

7. One ball and 9 balls, are how many balls? How many are 1 and 9? 9 and 1?

8. One pear and 7 pears, are how many pears? How many are 1 and 7? 7 and 1?

9. Nine marbles and 1 marble, are how many?

10. James gave 1 cent for an apple, and 4 cents for an orange; how many cents did he give for both?

---

1 and 1 are 2
1 and 2 are 3
1 and 3 are 4
1 and 4 are 5
1 and 5 are 6

1 and 6 are 7
1 and 7 are 8
1 and 8 are 9
1 and 9 are 10
1 and 10 are 11

LESSON VII.

1. Two pears and one pear, are how many pears? Two and one are how many?

2. Two pears and two pears, are how many pears? Two and two are how many?

3. Two pears and three pears, are how many pears? Two and three are how many?

4. Two watches and four watches, are how many watches? Two and four are how many?

5. Two watches and five watches, are how many watches? Two and five are how many?

1. Two pears and 1 pear are how many pears? How many are 2 and 1? 1 and 2?

2. Two pears and 5 pears are how many pears? How many are 2 and 5? 5 and 2?

3. Two pears and 7 pears are how many pears? How many are 2 and 7? 7 and 2?

4. Two pears and 9 pears are how many pears? How many are 2 and 9? 9 and 2?

5. Two pears and 8 pears are how many pears? How many are 2 and 8? 8 and 2?

6. Two watches and 10 watches are how many watches? 2 and 10 are how many? 10 and 2?

7. Two watches and 6 watches are how many watches? 2 and 6 are how many? 6 and 2?

8. Two watches and 4 watches are how many watches? 2 and 4 are how many? 4 and 2?

9. Two watches and 3 watches are how many watches? 2 and 3 are how many? 3 and 2?

10. Two watches and 2 watches are how many watches? 2 and 2 are how many?

11. A pear-tree has 8 pears on one limb, and 9 pears on another limb; how many pears are there on both limbs?

---

2 and 1 are 3
2 and 2 are 4
2 and 3 are 5
2 and 4 are 6
2 and 5 are 7
2 and 6 are 8
2 and 7 are 9
2 and 8 are 10
2 and 9 are 11
2 and 10 are 12

LESSON VIII.

1. Three sheep and one sheep, are how many sheep? Three and one are how many?

2. Three sheep and two sheep, are how many sheep? Three and two are how many?

3. Three sheep and three sheep, are how many sheep? Three and three are how many?

4. Three mortars and four mortars, are how many mortars? Three and four are how many?

5. Three mortars and five mortars, are how many mortars? Three and five are how many?

1. Three sheep and 6 sheep, are how many sheep? 3 and 6 are how many? 6 and 3?

2. Three sheep and 7 sheep, are how many sheep? 3 and 7 are how many? 7 and 3?

3. Three sheep and 8 sheep, are how many sheep? 3 and 8 are how many? 8 and 3?

4. Three sheep and 10 sheep, are how many sheep? 3 and 10 are how many? 10 and 3?

5. Three mortars and 9 mortars, are how many mortars? 3 and 9 are how many? 9 and 3?

6. John has 3 rabbits, and James 7; how many rabbits have both of them? 5 and 7 are how many? 7 and 5?

7. John has 3 apples, and Frank gave him 9 more; how many did he then have? 9 and 3 are how many? 3 and 9?

8. Reuben's shoes cost 2 dollars, and his coat cost 8 dollars; how many dollars did both cost?

9. There are 3 birds on one tree, and 7 on another; how many birds are there on both trees?

10. A grocer sold 3 pounds of tea to one man, and 7 pounds to another; how many pounds did he sell to both?

---

3 and 1 are 4
3 and 2 are 5
3 and 3 are 6
3 and 4 are 7
3 and 5 are 8

3 and 6 are 9
3 and 7 are 10
3 and 8 are 11
3 and 9 are 12
3 and 10 are 13

LESSON IX.

1. Four bells and one bell, are how many bells? Four and one are how many?

2. Four bells and two bells, are how many bells? Four and two are how many?

3. Four bells and three bells, are how many bells? Four and three are how many?

4. Four chairs and four chairs, are how many chairs? Four and four are how many?

5. Four chairs and five chairs, are how many chairs? Four and five are how many?

1. Four bells and 6 bells, are how many bells? 4 and 6 are how many? 6 and 4?

2. Four bells and 8 bells, are how many bells? 4 and 8 are how many? 8 and 4?

3. Four bells and 10 bells, are how many bells? 4 and 10 are how many? 10 and 4?

4. Four bells and 9 bells, are how many bells? 4 and 9 are how many? 9 and 4?

5. Four bells and 7 bells, are how many bells? 4 and 7 are how many? 7 and 4?

6. A farmer has 4 black cows, and 5 red ones; how many cows has he in all? 4 and 5 are how many?

7. A farmer has 5 sheep in one pasture, and 4 in another; how many sheep has he in both pastures?

8. A knife costs 8 cents, and a top 4 cents; how many cents do both cost?

9. Jane has 4 cents in one hand, and 9 cents in the other; how many cents has she in both hands? 4 and 9 are how many?

10. One cat has 4 kittens, and another cat has 6 kittens; how many kittens have both cats?

---

4 and 1 are 5
4 and 2 are 6
4 and 3 are 7
4 and 4 are 8
4 and 5 are 9

4 and 6 are 10
4 and 7 are 11
4 and 8 are 12
4 and 9 are 13
4 and 10 are 14

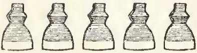
LESSON X.

1. Five mugs and one mug, are how many mugs? Five and one are how many?

2. Five mugs and two mugs, are how many mugs? Five and two are how many?

3. Five mugs and three mugs, are how many mugs? Five and three are how many?

4. Five axes and four axes, are how many axes? Five and four are how many?



5. Five axes and five axes, are how many axes? Five and five are how many?

1. Five mugs and 6 mugs, are how many mugs? How many are 5 and 6? 6 and 5?

2. Five mugs and 8 mugs, are how many mugs? How many are 5 and 8? 8 and 5?

3. Five axes and 9 axes, are how many axes? How many are 5 and 9? 9 and 5?

4. Five axes and 7 axes, are how many axes? How many are 5 and 7? 7 and 5?

5. Five axes and 10 axes, are how many axes? How many are 5 and 10? 10 and 5?

6. A farmer bought 8 lambs at one time, and 5 at another time; how many did he buy in all?

7. Albert spent 5 cents for candy, and 6 cents for nuts; how many cents did he spend in all? 5 and 6 are how many? 6 and 5?

8. James paid 5 cents for a top, and 10 cents for a pencil; how many cents did he pay for both?

9. A tailor bought 5 yards of cloth, and then 5 yards more; how many yards did he buy in all? 5 and 5 are how many?

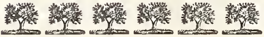
10. John gave 5 dollars for his hat, and 9 dollars for his coat; how many dollars did he give for both?

---

5 and 1 are 6
5 and 2 are 7
5 and 3 are 8
5 and 4 are 9
5 and 5 are 10

5 and 6 are 11
5 and 7 are 12
5 and 8 are 13
5 and 9 are 14
5 and 10 are 15

LESSON XI.



1. Six trees and one tree, are how many trees? Six and one are how many?

2. Six trees and two trees, are how many trees? Six and two are how many?

3. Six trees and three trees, are how many trees? Six and three are how many?

4. Six trees and four trees, are how many trees? Six and four are how many?

5. Six trees and five trees, are how many trees? Six and five are how many?

1. There are 6 trees in one row, and 6 trees in another; how many trees in both rows?

2. Six trees and 7 trees, are how many trees? How many are 6 and 7? 7 and 6?

3. Six trees and 9 trees, are how many trees? How many are 6 and 9? 9 and 6?

4. Six trees and 10 trees, are how many trees? How many are 6 and 10? 10 and 6?

5. Six trees and 9 trees, are how many trees? How many are 6 and 9? 9 and 6?

6. Bought a bottle of ink for 8 cents, and some pens for 6 cents; how many cents were paid for both?

7. Andrew, after spending 6 cents, had 8 cents left; how many cents had he at first? 6 and 8 are how many? 8 and 6?

8. Edward missed 6 words in spelling his lesson, and Henry missed 9; how many words did both miss?

9. Maria had 6 flowers, and Susan 7; how many flowers had both?

10. Albert had 9 sweet apples, and 6 sour apples; how many apples had he?

---

6 and 1 are 7
6 and 2 are 8
6 and 3 are 9
6 and 4 are 10
6 and 5 are 11

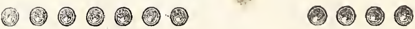
6 and 6 are 12
6 and 7 are 13
6 and 8 are 14
6 and 9 are 15
6 and 10 are 16

LESSON XII.

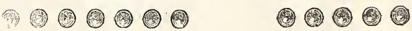
1. Seven boots and one boot, are how many boots? Seven and one are how many?

2. Seven boots and two boots, are how many boots? Seven and two are how many?

3. Seven trees and three trees, are how many trees? Seven and three are how many?



4. Seven balls and four balls, are how many balls? Seven and four are how many?



5. Seven balls and five balls, are how many balls? Seven and five are how many?

1. Seven boots and 6 boots, are how many boots? 7 and 6 are how many? 6 and 7?

2. Seven balls and 8 balls, are how many balls? How many are 7 and 8? 8 and 7?

3. Seven balls and 9 balls, are how many balls? How many are 7 and 9? 9 and 7?

4. Seven balls and 10 balls, are how many balls? How many are 7 and 10? 10 and 7?

5. Seven balls and 7 balls, are how many balls? How many are 7 and 7?

6. Richard wrote 7 lines yesterday, and 5 today; how many lines did he write in both days?

7. If a barrel of sugar costs 7 dollars, and a barrel of flour 8 dollars; how many dollars will both cost?

8. Andrew has 7 rabbits, and James gave him 8 more; how many rabbits had he then?

9. John picked 7 quarts of strawberries, and James picked 9 quarts; how many quarts did both pick?

10. Howard earned 7 shillings one week, and 10 shillings the next week; how many shillings did he earn in all?

---

7 and 1 are 8
7 and 2 are 9
7 and 3 are 10
7 and 4 are 11
7 and 5 are 12
7 and 6 are 13
7 and 7 are 14
7 and 8 are 15
7 and 9 are 16
7 and 10 are 17

LESSON XIII.

1. Eight little girls and one little girl, are how many girls? Eight and one are how many?

2. Eight little girls and two little girls, are how many girls? Eight and two are how many?

3. Eight little girls and three little girls, are how many girls? Eight and three are how many?

4. Eight balls and four balls, are how many balls? Eight and four are how many?

5. Eight balls and five balls, are how many balls? Eight and five are how many?

1. There are 8 little girls in one row, and 6 in another row; how many are there in both rows?

2. Eight balls and 8 balls, are how many balls? How many are 8 and 8?

3. Eight balls and 9 balls, are how many balls? How many are 8 and 9? 9 and 8?

4. Eight balls and 10 balls, are how many balls? How many are 8 and 10? 10 and 8?

5. Isaac is 8 years old, and Mary 6 years older; how old is Mary?

6. Bought a calf for 8 dollars, and a sheep for 6 dollars; how many dollars were paid for both?

7. Ira spelled 8 words, and James 9 words; how many words did both of them spell?

8. Charles had 8 oranges in one hand, and 4 in the other; how many had he in both hands?

9. Reuben had 8 cents in one pocket, and 8 in another; how many cents had he in both pockets?

10. A man had 8 dollars, and borrowed 7 more; how many dollars had he then?

11. John has 4 marbles, and won 8 from James; how many marbles had he then? 4 and 8 are how many? 8 and 4?

---

8 and 1 are 9
8 and 2 are 10
8 and 3 are 11
8 and 4 are 12
8 and 5 are 13

8 and 6 are 14
8 and 7 are 15
8 and 8 are 16
8 and 9 are 17
8 and 10 are 18

LESSON XIV.

1. Nine bottles and one bottle, are how many bottles? Nine and one are how many?

2. Nine bottles and two bottles, are how many bottles? Nine and two are how many?

3. Nine bottles and three bottles, are how many bottles? Nine and three are how many?

4. Nine balls and four balls, are how many balls? Nine and four are how many?

5. Nine balls and five balls, are how many balls? Nine and five are how many?

1. Nine bottles and 6 bottles, are how many bottles? 9 and 6 are how many? 6 and 9?

2. Nine bottles and 7 bottles, are how many bottles? 9 and 7 are how many? 7 and 9?

3. Nine balls and 8 balls, are how many balls? 9 and 8 are how many? 8 and 9?

4. Nine balls and 9 balls, are how many balls? 9 and 9 are how many?

5. Nine balls and 10 balls, are how many balls? 9 and 10 are how many? 10 and 9?

6. There are 7 trees in one row, and 9 in another; how many trees are there in both rows? 7 and 9 are how many?

7. There are 6 boys sitting on one bench, and 9 on another; how many boys are there on both benches?

8. One of Willie's hens has 9 chickens, and another 8; how many chickens has he in all? 9 and 8 are how many? 8 and 9?

9. In an orchard there are 9 pear-trees, and 9 peach-trees; how many trees are there in all?

10. Ten bottles and 9 bottles, are how many bottles? 9 and 10 are how many?

---

9 and 1 are 10
9 and 2 are 11
9 and 3 are 12
9 and 4 are 13
9 and 5 are 14

9 and 6 are 15
9 and 7 are 16
9 and 8 are 17
9 and 9 are 18
9 and 10 are 19

LESSON XV.

1. Ten soldiers and one soldier, are how many soldiers? Ten and one are how many?

2. Ten soldiers and two soldiers, are how many soldiers? Ten and two are how many?

3. Ten soldiers and three soldiers, are how many soldiers? Ten and three are how many?

4. Ten balls and four balls, are how many balls? Ten and four are how many?

5. Ten balls and five balls, are how many balls? Ten and five are how many?

1. Ten soldiers and 6 soldiers, are how many soldiers? 10 and 6 are how many? 6 and 10?

2. Ten soldiers and 7 soldiers, are how many soldiers? 10 and 7 are how many? 7 and 10?

3. Ten balls and 8 balls, are how many balls? 10 and 8 are how many? 8 and 10?

4. Ten balls and 9 balls, are how many balls? 10 and 9 are how many? 9 and 10?

5. Ten balls and 10 balls, are how many balls? 10 and 10 are how many?

6. A cat caught 10 mice one day, and 6 the next day; how many mice did she catch? 10 and 6 are how many?

7. A man bought a saddle for 10 dollars, and a bridle for 8 dollars; how many dollars did both cost him?

8. John has 10 cents in one pocket, and 8 in another pocket; how many cents has he in both?

9. There are 10 doves on the roof of the barn, and 9 on the roof of the house; how many doves are there in all?

10. Watson sold 7 oranges, and had 10 left; how many oranges had he at first?

---

10 and 1 are 11
10 and 2 are 12
10 and 3 are 13
10 and 4 are 14
10 and 5 are 15
10 and 6 are 16
10 and 7 are 17
10 and 8 are 18
10 and 9 are 19
10 and 10 are 20

LESSON XVI.

REVIEW LESSON.

2 and 4 are how many?
6 and 2 “
3 and 3 “
7 and 2 “
2 and 5 “
6 and 3 “
8 and 6 “
4 and 7 “
9 and 4 “

5 and 6 are how many?
3 and 8 “
8 and 4 “
2 and 9 “
9 and 3 “
7 and 8 “
4 and 4 “
3 and 6 “
6 and 7 “

5 and 2 are how many?
2 and 3 “
7 and 5 “
2 and 7 “
5 and 4 “
4 and 9 “
8 and 5 “
9 and 8 “
4 and 5 “

5 and 7 are how many?
9 and 6 “
8 and 3 “
9 and 5 “
6 and 8 “
7 and 6 “
6 and 4 “
3 and 7 “
4 and 2 “

7 and 4 are how many?
3 and 5 “
6 and 6 “
5 and 3 “
9 and 2 “
4 and 8 “
8 and 7 “
3 and 4 “
7 and 7 “

2 and 6 are how many?
9 and 7 “
5 and 5 “
6 and 7 “
8 and 8 “
5 and 9 “
2 and 8 “
7 and 3 “
4 and 6 “

LESSON XVII.

READING FIGURES.

Twenty-one	21
Twenty-nine	29
Thirty-seven	37
Forty	40
Sixty-seven	67
Seventy	70
Ninety-five	95
One hundred	100
One hundred and ten	110
One hundred and seventy-five	175
One hundred and ninety-five	195
Two hundred and sixty-seven	267
Three hundred and twenty-seven	327
Three hundred and ninety-five	395
Four hundred and fifty	450
Four hundred and sixty-seven	467
Five hundred	500
Six hundred and seventy-two	672
Seven hundred	700
Seven hundred and fifteen	715
Eight hundred and seventy-five	875
Six hundred and fifty-seven	657
Nine hundred and seventy-two	972
Nine hundred and ninety-nine	999
One thousand	1000

LESSON XVIII.

PROMISCUOUS EXAMPLES.

1. John bought a top for 6 cents, and some candy for 5 cents; how many cents did he pay for both?

ANALYSIS.—*He paid for both as many cents as there are in the sum of* 6 *cents and* 5 *cents: the sum of* 6 *and* 5 *is* 11: *Therefore, he paid for both*, 11 *cents.*

2. In a school-room there are 5 boys on one bench, and 9 boys on another; how many boys are there on both benches?

3. A farmer sold a pig for 10 dollars, and a calf for 9 dollars; how many dollars did he get for both?

4. James paid 5 cents for an inkstand, and 8 cents for pens; how many cents did he pay for both?

5. A tailor sold a coat for 7 dollars, and a pair of pantaloons for 3 dollars; how many dollars did he get for both?

6. A man gave 6 dollars for a harness, and 8 dollars for a saddle; how many dollars did he pay for both?

7. A lady bought a bonnet for 9 dollars, and a shawl for 10 dollars; how many dollars did she pay for both?

8. There are 3 red roses on one bush, 8 yellow roses on another, and 2 white roses on another; how many roses are there in all?

9. John gave 6 apples to Mary, 5 to George, and kept 3 himself; how many apples had he at first?

10. How many boys are 4 boys, 10 boys, and 7 boys?

11. James has 4 rabbits in one pen, 7 in another, and 8 in a third pen; how many rabbits has he in all?

12. Nancy had 3 yellow-birds in one cage, 5 in another, and 9 flying about the room; how many birds had she in all?

13. Lucy bought sealing-wax for 8 cents, paper for 7 cents, and a pencil for 2 cents; how many cents did she pay for all?

14. James bought three rose-bushes: one had 8 buds, one 5 buds, and the other 6 buds; how many buds were there on all of them?

15. Charles had 3 cents in one pocket, 4 cents in another, and 5 cents in his hand; how many cents had he in all?

16. James has 8 marbles, and wins 2; then John gives him 4: how many marbles will he then have?

17. Jane bought a pincushion for 6 cents, some needles for 4 cents, and a pencil for 8 cents; how many cents did she pay for all?

LESSON I.

Subtraction is the operation of finding the difference between two numbers.

1. One duck taken from 2 ducks, leaves how many ducks? One from 2 leaves how many?

2. One duck taken from 3 ducks, leaves how many ducks? One from 3 leaves how many?

3. One duck taken from 4 ducks, leaves how many ducks? One from 4 leaves how many?

4. One acorn taken from 6 acorns, leaves how many acorns? One from 6 leaves how many?

5. One acorn taken from 8 acorns, leaves how many acorns? One from 8 leaves how many?

1. A boy had 4 plums, and gave 1 to his sister; how many had he left? *Ans.* 3. Why?

Because 3 *and* 1 *more make* 4: *therefore, if we take* 1 *from* 4, 3 *will be left.*

2. Rollin found 3 ripe peaches under a tree, and ate 1 of them; how many had he left?

3. A hen had 5 chickens, and 1 died; how many had she left?

4. John has 6 acorns, and gives 1 to William; how many has he left?

5. A tailor had 7 yards of cloth in a piece, he cut off 1 yard; how many yards had he left?

6. Jane has 6 ducks, and 1 died; how many were left?

7. Julia had 10 cents, and gave 1 cent for a pencil; how many cents had she left? 1 from 10, leaves how many?

8. There were in a class 6 boys and 1 girl; how many more boys than girls in the class?

9. If I have 8 pears, and eat 1, how many are left?

---

1 from 1 leaves 0
1 from 2 leaves 1
1 from 3 leaves 2
1 from 4 leaves 3
1 from 5 leaves 4
1 from 6 leaves 5
1 from 7 leaves 6
1 from 8 leaves 7
1 from 9 leaves 8
1 from 10 leaves 9

NOTE.—A small line is placed under what is taken away. Let the child put its finger over what is taken away, and *count* what is left.

LESSON II.

1. Two turkeys taken from 2 turkeys, leaves how many turkeys? 2 from 2 leaves how many?

2. Two turkeys taken from 3 turkeys, leaves how many turkeys? 2 from 3 leaves how many?

3. Two turkeys taken from 4 turkeys, leaves how many turkeys? 2 from 4 leaves how many?

4. Two oranges taken from 6 oranges, leaves how many oranges? 2 from 6 leaves how many?

5. Two oranges taken from 7 oranges, leaves how many oranges? 2 from 7 leaves how many?

1. Eliza picked 5 roses, and gave 2 to her teacher; how many had she left? *Ans.* 3. Why? *Because* 3 *and* 2 *more make* 5: *therefore*, 2 *from* 5 *leaves* 3.

2. Andrew had 6 chickens, and the cat caught 2 of them; how many had he left?

3. A man gave 5 dollars for a hat, and 2 dollars for a vest; how much more did he give for the hat than for the vest?

4. A farmer had 7 horses, and sold 2 of them; how many had he left?

5. A teacher asked a scholar 9 questions, and he missed 2 of them; how many did he answer?

6. Jacob had 4 lambs, and lost 2; how many had he left?

7. Albert rode 10 miles, and walked 2 miles; how many more miles did he ride than walk?

8. A drover had 8 cows, and sold 2 of them; how many had he left?

9. Caroline had 11 books, and gave away 2; how many had she left?

10. Mary had 7 birds, and 2 died; how many were left?

---

2 from 2 leaves 0
2 from 3 leaves 1
2 from 4 leaves 2
2 from 5 leaves 3
2 from 6 leaves 4
2 from 7 leaves 5
2 from 8 leaves 6
2 from 9 leaves 7
2 from 10 leaves 8
2 from 11 leaves 9

LESSON III.

1. Three hives taken from 4 hives, leaves how many hives?

2. Three hives taken from 5 hives, leaves how many hives?

3. Lucy had 7 pears, and gave 3 to Ann; how many had she left?

4. In a pasture are 9 sheep, 3 black, and the rest are white; how many are white?

5. Sold some butter for 10 dollars, and received 3 dollars; how much more is due?

6. Samuel borrowed 12 cents, and paid 3; how many did he then owe?

7. A merchant bought 11 barrels of flour; after selling some, he found he had 3 barrels left; how many barrels had he sold?

---

3 from 3 leaves 0
3 from 4 leaves 1
3 from 5 leaves 2
3 from 6 leaves 3
3 from 7 leaves 4

3 from 8 leaves 5
3 from 9 leaves 6
3 from 10 leaves 7
3 from 11 leaves 8
3 from 12 leaves 9

LESSON IV.

1. Four cars taken from 5 cars, leaves how many cars?

2. Four cars from 6, leaves how many cars?
3. A farmer having 10 cows, sold all but 4 of them; how many did he sell?
4. A man having 12 dollars, gave all but 4 dollars for a coat; how many dollars did he give?
5. Sarah had 8 quills, and gave 4 to her sister; how many had she left?
6. Rufus is 13 years old, and Betsey is 4 years old; what is the difference in their ages?
7. A lady having 5 dollars in her purse, gave 1 dollar to a beggar; how much had she left?
8. A boy caught 7 fishes, and threw 4 of them back into the pond; how many had he left?

4 from 4 leaves 0
4 from 5 leaves 1
4 from 6 leaves 2
4 from 7 leaves 3
4 from 8 leaves 4
4 from 9 leaves 5
4 from 10 leaves 6
4 from 11 leaves 7
4 from 12 leaves 8
4 from 13 leaves 9

LESSON V.

1. Five lemons from 7 lemons, leaves how many lemons?

2. Five lemons from 9 lemons, leaves how many lemons?

3. There are 6 boys and 5 girls in a class; how many more boys than girls?

4. Reuben has 5 plums, and he gives them all to John; how many has he left?

5. Carlos fires into a flock of 14 pigeons, and kills 5 of them; how many are left?

6. If you eat your supper at 5 o'clock, and go to bed at 9, how many hours have you to read and play?

7. Nathan had 13 cents, and gave 5 cents for three pens; how many cents had he left?

5 from 5 leaves 0
5 from 6 leaves 1
5 from 7 leaves 2
5 from 8 leaves 3
5 from 9 leaves 4
5 from 10 leaves 5
5 from 11 leaves 6
5 from 12 leaves 7
5 from 13 leaves 8
5 from 14 leaves 9

LESSON VI.

1. Six oranges from 7 oranges, leaves how many oranges?

2. Six oranges from 9 oranges, leaves how many oranges?

3. A boy gave 8 cents for a top, and sold it for 6 cents; how many cents did he lose?

4. David had 10 marbles, and gave 6 to his brother; how many did he keep for himself?

5. In a school there are 16 boys and 6 girls; how many more boys than girls are there?

6. There are 14 sheep in a fold, and a wolf kills 6 of them; how many are left alive?

7. A grocer bought 8 cheeses; after selling some, he found he had 6 left: how many were sold?

6 from 6 leaves 0
6 from 7 leaves 1
6 from 8 leaves 2
6 from 9 leaves 3
6 from 10 leaves 4

6 from 11 leaves 5
6 from 12 leaves 6
6 from 13 leaves 7
6 from 14 leaves 8
6 from 15 leaves 9

LESSON VII.

1. Seven cherries from 8 cherries, leaves how many cherries?

2. Seven cherries from nine cherries, leaves how many cherries?

3. There were 7 chairs in a room, and Mary took 7 out; how many were left?

4. There were 10 doves on the roof of the barn, and 7 flew away; how many were left?

5. Frank having 15 cents, spent 7 cents for toys; how many cents had he left?

6. A farmer having 16 pigs, sold them all but 6; how many did he sell?

7. Julia, finding 14 roses in bloom, picked them all but 7; how many did she pick?

8. Twelve cents, less 11 cents, are how many?

7 from 7 leaves 0
7 from 8 leaves 1
7 from 9 leaves 2
7 from 10 leaves 3
7 from 11 leaves 4

7 from 12 leaves 5
7 from 13 leaves 6
7 from 14 leaves 7
7 from 15 leaves 8
7 from 16 leaves 9

LESSON VIII.

1. Eight bottles from 8 bottles, leaves how many bottles?

2. Eight bottles from nine bottles, leaves how many bottles?

3. Mr. Jones bought 12 firkins of butter, and sold 8 of them; how many had he left?

4. James is 11 years old, and John 10 years old; what is the difference of their ages?

5. A boy carried 9 quarts of berries to market, and sold 8 quarts; how many had he left?

6. From a class of 17 boys, 8 are taken and put into a higher class; how many are left?

7. There are 14 shade-trees in a row; 8 of them die: how many are left?

8. Ten dollars less 8 dollars, are how many?

---

8 from 8 leaves 0
8 from 9 leaves 1
8 from 10 leaves 2
8 from 11 leaves 3
8 from 12 leaves 4
8 from 13 leaves 5
8 from 14 leaves 6
8 from 15 leaves 7
8 from 16 leaves 8
8 from 17 leaves 9

LESSON IX.

1. Nine balls taken from twelve balls, leaves how many balls?

2. Nine balls from 13 balls, leaves how many?

3. A lady having 15 dollars, gave 9 dollars for a bonnet; how many dollars had she left?

4. Harriet has a writing-book of 12 pages; she has written 9 pages: how many pages are left?

5. The school-term is 14 weeks long; 9 weeks have passed: how many weeks remain?

6. A boy had 18 peaches, and sold 9 of them; how many had he left?

7. In a certain school, there are 17 boys and 9 girls; how many more boys than girls?

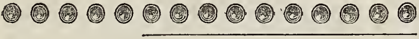
8. In an orchard are 13 pear-trees, and 9 of them die; how many are still alive?

9. Charles bought a knife for 11 cents, and sold it for 9 cents; how many cents did he lose?

9 from 9 leaves 0
9 from 10 leaves 1
9 from 11 leaves 2
9 from 12 leaves 3
9 from 13 leaves 4
9 from 14 leaves 5
9 from 15 leaves 6
9 from 16 leaves 7
9 from 17 leaves 8
9 from 18 leaves 9

LESSON X.

1. Ten balls from 14 balls, leaves how many balls?



2. Ten balls from fifteen balls, leaves how many balls?

3. Horace put 14 dollars in the savings bank, and drew out 10 dollars; how many dollars were left in?

4. A boy earned 18 cents, and received 10 cents; how much was still due him?

5. William shot 16 pigeons, and gave 10 away; how many were left?

6. Mary had 19 pins, and lost them all but 10; how many did she lose?

7. Harry borrowed 11 cents, and paid 10 cents; how many cents did he still owe?

8. Edgar had 12 marbles, and lost 10; how many had he left?

10 from 10 leaves 0
10 from 11 leaves 1
10 from 12 leaves 2
10 from 13 leaves 3
10 from 14 leaves 4

10 from 15 leaves 5
10 from 16 leaves 6
10 from 17 leaves 7
10 from 18 leaves 8
10 from 19 leaves 9

LESSON XI.

REVIEW LESSON.

6 from 11, how many?
5 from 10, “
4 from 8, “
9 from 12, “
7 from 12, “
6 from 7, “
9 from 10, “
5 from 9, “
2 from 8, “

8 from 10, how many?
6 from 12, “
9 from 11, “
8 from 13, “
3 from 8, “
7 from 10, “
5 from 11, “
8 from 15, “
4 from 7, “

2 from 10, how many?
7 from 9, “
9 from 13, “
9 from 14, “
5 from 8, “
3 from 7, “
2 from 11, “
6 from 9, “
7 from 16, “

4 from 12, how many?
5 from 7, “
6 from 13, “
7 from 8, “
9 from 16, “
8 from 12, “
7 from 13, “
5 from 12, “
3 from 10, “

8 from 14, how many?
9 from 17, “
5 from 13, “
3 from 11, “
7 from 14, “
2 from 9, “
4 from 10, “
8 from 17, “
7 from 15, “

4 from 13, how many?
6 from 10, “
8 from 11, “
9 from 18, “
6 from 15, “
3 from 12, “
4 from 9, “
7 from 11, “
9 from 15, “

LESSON XII.

PROMISCUOUS EXAMPLES.

1. Henry had 18 cents; he gave 4 cents for an orange, and 6 cents for a pencil; how many cents had he left?

ANALYSIS.—*He had left the difference between* 18 *cents and the sum of* 4 *cents and* 6 *cents: the sum of* 4 *and* 6 *is* 10: *Therefore, he had left* 18 *cents less* 10 *cents, which is* 8 *cents.*

2. A boy gave 20 cents for a sled, and 5 cents to have it painted; he then sold it for 15 cents: how many cents did he lose?

3. A farmer bought a sleigh for 19 dollars, and paid a ten dollar bill, and a five dollar bill; how much did he still owe?

4. A drover bought 4 pigs of one man, and 8 of another; he sold five: how many had he left?

5. Eli's father gave him 15 cents on Christmas; he bought a book for 7 cents, and gave 6 cents to a beggar; how many cents had he left?

6. John earned 10 cents, and found 6 cents; he then bought a slate for 9 cents; how many cents had he left?

7. A farmer had 9 sheep in one lot, and 9 in another; he sold 7 of them: how many were left?

8. There were 18 scholars in a school, of which 9 were boys; how many girls were there?

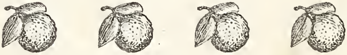
LESSON I.

MULTIPLICATION is the operation of taking one number as many times as there are units in another.

1. One orange, taken once, is one orange.

2. Two oranges, taken once, is 2 oranges.

3. Three oranges, taken once, is 3 oranges.



4. Four oranges, taken once, is 4 oranges.

5. Five oranges, taken once, is 5 oranges.

once	1	is	1	once	6	is	6
once	2	is	2	once	7	is	7
once	3	is	3	once	8	is	8
once	4	is	4	once	9	is	9
once	5	is	5	once	10	is	10

LESSON II.

1. James has 1 apple in each hand; how many has he in both hands?

Two times one, are how many?

2. Charles has two apples in each hand; how many has he in both hands?

Two times two, are how many?

3. John has 3 apples in one basket, and 3 in another; how many apples in both baskets?

Two times three, are how many?

4. Here are four pears in one row, and 4 in another; how many pears in both rows?

Two times four, are how many?

5. Here are five cherries in one row, and 5 in another; how many cherries in both rows?

Two times five, are how many?

6. Here are six bottles in one row, and 6 in another; how many bottles in both rows?

Two times six, are how many?

7. Here are seven soldiers in one row, and seven in another; how many soldiers in both rows?

Two times seven, are how many?

8. John has two piles of apples, and 8 apples in each pile; how many apples has he?

9. Charles has 2 piles of apples, and 9 apples in each pile; how many apples has Charles?

10. James has 2 piles of apples, and 10 apples in each pile; how many apples has James?

11. Lucy has 6 roses on one bush, and 6 roses on another; how many roses has she?

12. James has 5 birds in one cage, and 5 in another cage; how many birds has he?

13. Nancy has two pieces of tape, each 4 yards long; how many yards of tape has she?

2	times	1	are	2	2	times	6	are	12
2	times	2	are	4	2	times	7	are	14
2	times	3	are	6	2	times	8	are	16
2	times	4	are	8	2	times	9	are	18
2	times	5	are	10	2	times	10	are	20

LESSON III.

1. Here are 3 turkeys. Now, if each turkey costs 4 shillings, what will the 3 turkeys cost?

Analysis.—*Three turkeys will cost* 3 *times as much as* 1 *turkey:* 1 *turkey costs* 4 *shillings: Therefore,* 3 *turkeys will cost* 3 *times* 4 *shillings, which are* 12 *shillings.*

2. What will 3 axes cost, at 2 dollars apiece?

3. If one sheep costs 3 dollars, what will be the cost of 3 sheep?

4. Joseph gave 3 apples apiece to 3 of his companions; how many apples did he give to all?

5. If a farmer gives 7 bushels of corn for one yard of cloth, how much must he give for 3 yards?

6. If Sarah reads 9 pages a day, how many pages will she read in 3 days?

7. What will be the cost of 5 yards of ribbon, at 3 shillings a yard?

---

3 times 1 are 3
3 times 2 are 6
3 times 3 are 9
3 times 4 are 12
3 times 5 are 15
3 times 6 are 18
3 times 7 are 21
3 times 8 are 24
3 times 9 are 27
3 times 10 are 30

LESSON IV.

1. Here are 4 hives: If 1 hive costs 3 dollars, what will 4 hives cost?

2. If John rides 7 miles an hour, how far will he ride in 4 hours?

3. A drover bought 6 calves, at 4 dollars apiece; how much did he pay for them?

4. If there are 9 gallons of cider in 1 keg, how many gallons would there be in 4 kegs?

5. If there are 4 weeks in one month, how many weeks are there in 4 months?

6. If there are 9 panes of glass in one window, how many panes of glass are there in 4 windows?

7. At 10 shillings a day, what will 4 days' work come to?

8. If 4 boys have 8 marbles apiece, how many will they all have?

9. What will 9 hats cost, at 4 dollars apiece?

---

4 times 1 are 4
4 times 2 are 8
4 times 3 are 12
4 times 4 are 16
4 times 5 are 20
4 times 6 are 24
4 times 7 are 28
4 times 8 are 32
4 times 9 are 36
4 times 10 are 40

LESSON V.

1. If 1 car has 4 wheels, how many wheels have 5 cars?

2. What will 5 quarts of berries cost, at 8 cents a quart?

3. If there are 7 trees in a row, how many trees are there in 5 rows?

4. What will 5 yards of ribbon cost, at 6 cents a yard?

5. If a boat sails 3 miles an hour, how far will it sail in 5 hours?

6. George bought 5 books, at 10 cents apiece; what did they all cost him?

7. What will 5 pounds of sugar cost, at 9 cents a pound?

8. If a boy goes to school 5 days in a week, how many days would he go to school in 5 weeks?

9. What will 5 melons cost, at 10 cents apiece?

5	times	1	are	5	5	times	6	are	30
5	times	2	are	10	5	times	7	are	35
5	times	3	are	15	5	times	8	are	40
5	times	4	are	20	5	times	9	are	45
5	times	5	are	25	5	times	10	are	50

LESSON VI.

1. Here are 6 sheep: A farmer paid 3 dollars for each sheep; how much did he pay for the 6 sheep?

2. If a man eats 8 ounces of meat in a day, how many ounces would he eat in 6 days?

3. In an orchard are 6 rows of trees, and 10 trees in a row; how many trees in the orchard?

4. If an apple is worth 4 cherries, how many cherries are 6 apples worth?

5. Charles gave 6 beggars 6 cents apiece; how many cents did he give to them all?

6. What will be the cost of 6 watches, at 9 dollars apiece?

7. If a scholar works 7 examples in one hour, how many can he work in 6 hours?

8. If 1 pencil costs 2 cents, what will be the cost of 9 pencils?

---

6 times 1 are 6
6 times 2 are 12
6 times 3 are 18
6 times 4 are 24
6 times 5 are 30
6 times 6 are 36
6 times 7 are 42
6 times 8 are 48
6 times 9 are 54
6 times 10 are 60

LESSON VII.

1. Here are 7 bells: If 1 bell costs 2 dollars, what will be the cost of 7 bells?

2. If 1 hat costs 4 dollars, what will be the cost of 7 hats?

3. What will 7 pounds of rice cost, at 5 cents a pound?

4. James has 7 brothers, and gives to each 9 marbles; how many does he give to them all?

5. William gives 7 apples to each of 9 schoolmates; how many apples does he give away?

6. At 10 cents apiece, what will be the cost of 7 pineapples?

7. How much will 7 yards of calico cost, at 9 cents a yard?

8. What will 7 tops cost, at 9 cents for each top?

9. At 5 cents each, what will 7 tops cost?

---

7 times 1 are 7
7 times 2 are 14
7 times 3 are 21
7 times 4 are 28
7 times 5 are 35
7 times 6 are 42
7 times 7 are 49
7 times 8 are 56
7 times 9 are 63
7 times 10 are 70

LESSON VIII.

1. Here are 8 mugs: If 1 mug costs 3 shillings, what will be the cost of 8 mugs?

2. What is the cost of 8 pounds of rice, at 5 cents a pound?

3. If a horse travels 7 miles in an hour, how far will he travel in 8 hours?

4. At 9 cents a dozen, what will 8 dozen of eggs cost?

5. William bought 8 pens, at 2 cents apiece; what did the pens cost?

6. If William sells 8 quarts of cherries, at 4 cents a quart, how much will they come to?

7. If a man earns 9 dollars in one month, how much will he earn in 8 months?

8. If 1 plate costs 10 cents, what will 8 plates cost?

9. At 3 cents each, what will 8 pears cost?

---

8 times 1 are 8
8 times 2 are 16
8 times 3 are 24
8 times 4 are 32
8 times 5 are 40
8 times 6 are 48
8 times 7 are 56
8 times 8 are 64
8 times 9 are 72
8 times 10 are 80

LESSON IX.

1. If 1 pear costs 2 cents, what will 9 pears cost, at the same rate?

2. If one cord of wood costs 3 dollars, what will 9 cords cost?

3. What will 9 pounds of lard cost, at 7 cents a pound?

4. If one week's board costs me 5 dollars, what will 9 weeks' board cost me?

5. If a family consumes 8 pounds of butter in a week, how many pounds will they consume in 9 weeks?

6. At 9 cents a pound, what will 9 pounds of sugar cost?

7. What will be the cost of 9 sheep, at 2 dollars apiece?

8. If Jane writes 6 lines a day, how many lines will she write in 9 days?

---

9 times 1 are 9
9 times 2 are 18
9 times 3 are 27
9 times 4 are 36
9 times 5 are 45
9 times 6 are 54
9 times 7 are 63
9 times 8 are 72
9 times 9 are 81
9 times 10 are 90

LESSON X.

1. If 1 chair costs 2 dollars, what will 10 chairs cost, at the same rate?

2. If James gave 4 apples for one orange, how many apples must he give for 10 oranges?

3. At 6 cents a quart, what will 10 quarts of strawberries cost?

4. If a man travels by stage, at the rate of 3 miles an hour, how far will he travel in 10 hours?

5. There are 4 quarts in one gallon, how many quarts are there in 10 gallons?

6. What will 10 yards of broadcloth cost, at 5 dollars a yard?

7. If a barrel of potatoes costs 7 shillings, how much will 10 barrels cost?

8. Ten cents make one dime; how many cents are there in 10 dimes?

9. At 4 cents each, what will 10 pears cost?

10 times 1 are 10
10 times 2 are 20
10 times 3 are 30
10 times 4 are 40
10 times 5 are 50

10 times 6 are 60
10 times 7 are 70
10 times 8 are 80
10 times 9 are 90
10 times 10 are 100

LESSON XI.

REVIEW LESSON.

2 times 9 are how many?
7 times 6 “
5 times 9 “
8 times 4 “
4 times 9 “
6 times 3 “
9 times 4 “
7 times 5 “
3 times 9 “

8 times 3 are how many?
6 times 4 “
9 times 5 “
5 times 8 “
2 times 8 “
5 times 7 “
9 times 3 “
4 times 7 “
6 times 5 “

8 times 8 are how many?
4 times 6 “
3 times 8 “
9 times 7 “
6 times 6 “
7 times 3 “
5 times 6 “
6 times 8 “
8 times 9 “

9 times 8 are how many?
4 times 4 “
8 times 5 “
2 times 6 “
6 times 9 “
4 times 3 “
9 times 9 “
4 times 2 “
7 times 7 “

7 times 4 are how many?
3 times 6 “
5 times 3 “
7 times 8 “
8 times 6 “
2 times 5 “
3 times 4 “
3 times 5 “
5 times 4 “

6 times 2 are how many?
3 times 6 “
7 times 9 “
2 times 3 “
3 times 3 “
9 times 8 “
5 times 9 “
2 times 4 “
0 times 9 “

LESSON XII.

PROMISCUOUS EXAMPLES.

1. If 1 yard of cloth costs 4 dollars, what will 7 yards cost?

2. There are 7 days in a week; how many days are there in 4 weeks? In 5? In 7? In 8? In 9?

3. If 1 apple-tree bears 9 bushels of apples, how many bushels will come from 6 trees? 5? 9? 7?

4. If a cannon-ball weighs 10 pounds, how many pounds will 8 balls weigh? 9? 6? 5? 4?

5. Albert had 5 times as many marbles as James, and James had 7; how many had Albert?

6. A farmer had 3 yards, with 9 sheep in each; how many sheep had he in all?

7. If a man earns 10 dollars a month, how much will he earn in 5 months? In 1 month? In 7?

8. How much are 6 times 7, plus 6? 5 times 9, plus 5? 8 times 4, plus 3? 7 times 1, plus 9?

9. How many are 4 times 5, less 6? 5 times 8, less 4? 7 times 3, less 5? 9 times 2, less 10? How many are 6 times 7, plus 9?

10. James sold a chicken for 18 cents, his top for 8 cents, and his marbles for 12 cents; what did he get for them all?

11. Lucy bought 7 yards of tape at 5 cents a yard, and 2 yards of ribbon at 3 cents a yard; what did she pay in all?

12. If a cow is worth 26 dollars, what are 2 cows worth?

Analysis.—*Two cows are worth twice as much as* 1 *cow:* 1 *cow is worth* 26 *dollars: Therefore, cows are worth twice* 26 *dollars. Twice* 2 *tens are* 40, *and twice* 6 *units are* 12 *units:* 40 *and* 12 *are* 52: *Therefore, if* 1 *cow is worth* 26 *dollars,* 2 *cows will be worth* 52 *dollars.*

13. If it costs 24 cents a week to keep a cow, how much will it cost to keep 4 cows?

14. If the cars go 16 miles an hour, how far will they go in 6 hours?

15. At 45 cents a bushel for oats, what will 2 bushels cost?

16. If a man earns 18 dollars in one month, how much will he earn in 5 months?

17. At 14 cents a pound, what will 7 pounds of butter cost?

18. At 28 cents a bushel, what will 3 bushels of apples cost?

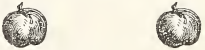
19. Joseph is 19 years old, and the age of his father is 4 times as great; how old is his father?

20. An orchard contained 17 peach-trees, and 5 times as many apple-trees; how many apple-trees were there?

21. A tailor bought 5 pieces of cloth, each piece containing 15 yards; how many yards did he buy in all?

LESSON I.

1. When a number is divided into 2 equal parts, each of the parts is called, *one-half.*



Here are 2 apples: What is the half of 2 apples? What is the half of 2?

Here are 4 apples: If they be equally divided between 2 boys, how many apples will each boy have?

ANALYSIS.—*The half of a number taken* 2 *times is equal to the number:* 2 *taken two times is* 4: *Therefore,* 2 *is the half of* 4, *and each boy will have two apples.*

What is one-half of 6 apples? One-half of 6?

2. When a number is divided into 3 equal parts, each of the parts is called, *one-third.*

Here are 3 lemons: What is one-third of 3 lemons? What is one-third of 3?

Here are six lemons: What is one-third of six lemons? What is one-third of 6?

3. When a number is divided into 4 equal parts, each of the parts is called, *one-fourth.*

Here are 4 ducks: What is one-fourth of 4 ducks? What is one-fourth of 4?

Here are 8 oranges: What is one-fourth of 8 oranges? What is one-fourth of 8?

4. When a number is divided into 5 equal parts, each of the parts is called, *one-fifth.*

Here are 5 watches: What is one-fifth of 5 watches? What is one-fifth of 5?

Here are 10 trees: What is one-fifth of 10 trees? What is one-fifth of 10?

5. When a number is divided into 6 equal parts, each of the parts is called, *one-sixth.*

Here are six axes: What is one-sixth of 6 axes? What is one-sixth of 6?

Here are 12 axes: What is one-sixth of 12 axes? What is one-sixth of 12?

6. When a number is divided into 7 equal parts, each of the parts is called, *one-seventh.*

Here are 7 acorns: What is one-seventh of 7 acorns? What is one-seventh of 7?

What is one-seventh of 14 oranges? What is one-seventh of 14?

7. When a number is divided into 8 equal parts, each of the parts is called, *one-eighth.*

Here are 8 boots: What is one-eighth of 8 boots? What is one-eighth of 8?

What is one-eighth of 16 boots? What is one-eighth of 16?

8. When a number is divided into 9 equal parts, each of the parts is called, *one-ninth.*

Here are 9 trees: What is one-ninth of 9 trees? What is one-ninth of 9?

What is one-ninth of 18 trees? What is one-ninth of 18?

9. When a number is divided into 10 equal parts, each of the parts is called, *one-tenth.*

Here are 10 hats: What is one-tenth of 10 hats? What is one-tenth of 10?

What is one-tenth of 20 hats? One-tenth of 20?

10. How do you find one-half of a number?
Ans. By dividing the number by 2.
What is one-half of 2? Of 4? Of 10?

11. How do you find one-third of a number?
Ans. By dividing the number by 3.
What is one-third of 3? Of 6? Of 12?

12. How do you find one-fourth of a number?
Ans. By dividing the number by 4.
What is one-fourth of 4? Of 8? Of 12?

Put similar questions to include the one-tenth.

LESSON II.

Division is the operation of finding how many times one number is contained in another.

1. Which is the greater, 1 apple or 2 apples? 2 apples are how many times as great as 1 apple?

1 apple is contained in 2 apples, how many times? 1 in 2, how many times?

2. 2 apples are contained in 2 apples, how many times? 2 in 2, how many times?

3. 2 apples are contained in 4 apples, how many times? 2 in 4, how many times?

4. 2 pears are contained in 6 pears, how many times? 2 in 6, how many times?

5. 2 cherries are contained in 8 cherries, how many times? 2 in 8, how many times?

6. Four apples are how many times as great as 2 apples?

ANALYSIS.—*Four apples are as many times as great as 2 apples, as 2 is contained times in 4; 2 is contained in 4, 2 times: Therefore, 4 apples are 2 times as great as 2 apples.*

7. How many times are 8 pears as great as 2 pears? 2 in 8, how many times?

8. How many times are 12 marbles as great as 3 marbles? 3 in 12, how many times?

9. Eighteen sticks of candy are how many times as great as 2 sticks of candy? 2 in 18?

10. Sixteen are how many times 2? 2 in 16, how many times?

11. Ten are how many times 5? 5 in 10, how many times?

12. Fourteen are how many times 7? 7 in 14, how many times?

13. Twelve are how many times 2? 2 in 12, how many times?

14. Two apples are contained how many times in 16 apples? 2 in 16, how many times?

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2 in 2, once.
2 in 4, 2 times.
2 in 6, 3 times.
2 in 8, 4 times.
2 in 10, 5 times.

2 in 12, 6 times.
2 in 14, 7 times.
2 in 16, 8 times.
2 in 18, 9 times.
2 in 20, 10 times.

LESSON III.

1. John divided 9 acorns, equally, among his three brothers; how many did he give to each?

Analysis.—*He gave to each brother one-third of* 9 *acorns: one-third of* 9 *is* 3: *Therefore, he gave each brother*, 3 *acorns.*

2. Twelve scholars, in a school, are distributed equally on 3 benches; how many sit on each bench?

3. James buys 15 oranges, and divides them equally among 3 boys; how many has each boy?

4. William divided 21 plums, equally, among 3 of his companions; how many did he give to each?

5. A farmer put 30 sheep into 3 pens; how many did he put in each pen?

6. Charles earned 27 cents in 3 days; how many cents did he earn each day?

7. If 24 marbles are divided, equally, among 3 boys, how many will each boy have?

3	in	3,		once.	3	in	18,	6	times.
3	in	6,	2	times.	3	in	21,	7	times.
3	in	9,	3	times.	3	in	24,	8	times.
3	in	12,	4	times.	3	in	27,	9	times.
3	in	15,	5	times.	3	in	30,	10	times.

LESSON IV.

1. If 4 barrels of apples cost 12 dollars, how many dollars will 1 barrel cost?

ANALYSIS.—*One barrel of apples will cost one-fourth as much as* 4 *barrels:* 4 *barrels cost* 12 *dollars, one-fourth of which is* 3 *dollars: Therefore,* 1 *barrel of apples will cost* 3 *dollars.*

2. If 4 yards of cloth cost 8 dollars, what will 1 yard cost?

3. If 4 oranges cost 20 cents, how much will 1 orange cost?

4. If 4 pineapples cost 36 cents, how much is that apiece?

5. If 40 dollars will buy 4 coats, how much does each coat cost?

6. If 28 cents will buy 4 melons, what is the cost of 1 melon?

7. If James pays 32 cents for 4 tops, how much does each top cost him?

8. Jane paid 36 cents for 4 yards of ribbon; how much did she pay for 1 yard?

4 in 4,	once.	4 in 24,	6 times.
4 in 8,	2 times.	4 in 28,	7 times.
4 in 12,	3 times.	4 in 32,	8 times.
4 in 16,	4 times.	4 in 36,	9 times.
4 in 20,	5 times.	4 in 40,	10 times.

LESSON V.

1. If 20 dollars will buy 5 yards of broadcloth, how much is that a yard?

2. At 5 dollars a week, how many weeks' board can I obtain for 35 dollars?

3. If 5 men pay a bill of 15 dollars, how much does each man pay?

4. If 5 scholars can sit on 1 bench, how many benches will accommodate 50 scholars?

5. How many barrels of flour can be bought for 40 dollars, at 5 dollars a barrel?

6. How many hours will it take a man to travel 10 miles, if he travels 5 miles an hour?

7. A man paid 45 dollars for building 5 rods of fence; how much did he pay for 1 rod?

8. If I put 25 bushels of apples into 5 boxes, how many do I put in each box?

9. A person received 50 dollars for 5 weeks' labor; how many dollars did he receive in one week?

10. If I receive 5 dollars for 5 bushels of wheat, how much is that a bushel?

5	in	5,		once.	5	in	30,	6	times.
5	in	10,	2	times.	5	in	35,	7	times.
5	in	15,	3	times.	5	in	40,	8	times.
5	in	20,	4	times.	5	in	45,	9	times.
5	in	25,	5	times.	5	in	50,	10	times.

LESSON VI.

1. If 6 sheets of paper make a copy-book, how many books will 18 sheets make?

2. If 24 peaches be equally divided among 6 boys, how many will each have?

3. At 6 cents a yard, how many yards of ribbon can be bought for 42 cents?

4. At 6 shillings a day, how many days' board can be obtained for 36 shillings?

5. A butcher paid 30 dollars for 6 calves; how much did he pay apiece?

6. If Mary reads 6 pages a day, how many days will it take her to read 48 pages?

7. If a ship sails 6 miles an hour, how long will it take her to sail 54 miles?

8. I gave 12 dollars for 6 bushels of wheat; what did I pay a bushel?

9. A mason finds that he can build 60 rods of stone fence in 6 days; how many rods can he build in one day?

10. If 6 men can build 6 rods of wall in one day, how much can one man build?

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6 in 6, once.
6 in 12, 2 times.
6 in 18, 3 times.
6 in 24, 4 times.
6 in 30, 5 times.
6 in 36, 6 times.
6 in 42, 7 times.
6 in 48, 8 times.
6 in 54, 9 times.
6 in 60, 10 times.

LESSON VII.

1. How many pounds of sugar, at 7 cents a pound, can be bought for 28 cents?

2. Susan gave 21 cents for 7 pencils; how many cents did she give for one pencil?

3. A boy sold 7 baskets of strawberries for 56 cents; how much did he get a basket?

4. A farmer received 14 dollars for 7 pigs; what did he receive for 1 pig?

5. A farmer has 35 dollars, which he wishes to expend in plows; he finds that they are 7 dollars apiece: how many can he buy?

6. If a stage runs 49 miles in 7 hours, how far does it run in one hour?

7. If 7 dozen of eggs are worth 63 cents, what is one dozen worth?

8. There are 7 days in one week; how many weeks are there in 56 days?

9. I paid 70 cents for 7 yards of calico; how much did I pay for one yard?

10. George bought 7 apples, for which he gave 7 cents; how much did he give apiece?

---

7 in 7, once.
7 in 14, 2 times.
7 in 21, 3 times.
7 in 28, 4 times.
7 in 35, 5 times.
7 in 42, 6 times.
7 in 49, 7 times.
7 in 56, 8 times.
7 in 63, 9 times.
7 in 70, 10 times.

LESSON VIII.

1. A lady purchased 8 yards of ribbon for 48 cents; what did one yard cost?

2. A gentleman bought 8 yards of broadcloth for 32 dollars; what was the cost of one yard?

3. At 8 cents a pound, how many pounds of ginger can be bought for 40 cents?

4. I paid 16 dollars for 8 barrels of apples; what did I pay for one barrel?

5. There are 8 quarts in one peck; how many pecks are there in 24 quarts?

6. When 80 dollars are paid for 8 acres of land, what is paid for one acre?

7. At 8 dollars a month, how long must a person work to earn 64 dollars?

8. If one tree bears 8 bushels of apples, how many trees will yield 56 bushels?

9. Joseph sold 8 melons for 72 cents; what was the price of one melon?

10. If a tailor requires 8 yards of cloth to make 1 suit of clothes, how many suits of clothes will 32 yards of cloth make?

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8 in 8, once.
8 in 16, 2 times.
8 in 24, 3 times.
8 in 32, 4 times.
8 in 40, 5 times.

8 in 48, 6 times.
8 in 56, 7 times.
8 in 64, 8 times.
8 in 72, 9 times.
8 in 80, 10 times.

LESSON IX.

1. At 9 cents apiece, how many melons can be bought for 27 cents?

2. How many yards of calico, at 9 cents a yard, can be bought for 54 cents?

3. If a horse eats 9 bushels of oats in a month, how long will 36 bushels last him?

4. If a horse travels 9 miles an hour, in what time will he travel 90 miles?

5. If 9 sewing girls received 45 shillings for a day's work, how much did each receive?

6. In an orchard there are 81 trees, and 9 trees in a row; how many rows in the orchard?

7. A farmer divided 18 bushels of potatoes, equally, among 9 persons; how many bushels to each person?

8. How many yards of silk, at 9 shillings a yard, can be bought for 63 shillings?

9. A workman received 9 dollars for 9 days' work; what were his daily wages?

10. If a man spends 9 cents a day for cigars, how long will 72 cents last him?

9	in	9,		once.	9	in	54,	6	times.
9	in	18,	2	times.	9	in	63,	7	times.
9	in	27,	3	times.	9	in	72,	8	times.
9	in	36,	4	times.	9	in	81,	9	times.
9	in	45,	5	times.	9	in	90,	10	times.

LESSON X.

1. At 10 cents a quart, how many quarts of molasses can be bought for 50 cents?

2. At 10 cents apiece, how many melons can be bought for 70 cents?

3. A farmer had 40 sheep, and put 10 in a flock; how many flocks had he?

4. There are 10 cents in one dime; how many dimes are there in 80 cents?

5. How many calves will 60 dollars buy, at 10 dollars each?

6. At 10 cents a yard, how many yards of calico can be bought for 90 cents?

7. Paid 20 dollars for 2 colts; what was the price of one colt?

8. If a boy earns 10 cents a day, how long will it take him to earn 70 cents?

9. A grocer finds that he can buy cider for 10 dollars a barrel; how many barrels of cider can he buy for 30 dollars?

10. How many pineapples, at 10 cents apiece, can I buy for 100 cents?

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10 in 10, once.
10 in 20, 2 times.
10 in 30, 3 times.
10 in 40, 4 times.
10 in 50, 5 times.
10 in 60, 6 times.
10 in 70, 7 times.
10 in 80, 8 times.
10 in 90, 9 times.
10 in 100, 10 times.

LESSON XI.

REVIEW LESSON.

6 in 54, how many times?
3 in 18, “
4 in 20, “
9 in 27, “
8 in 72, “
5 in 35, “
9 in 81, “
6 in 18, “
7 in 42, “

8 in 40, how many times?
4 in 36, “
7 in 49, “
4 in 16, “
7 in 28, “
8 in 64, “
6 in 12, “
9 in 63, “
5 in 25, “

8 in 16, how many times?
7 in 21, “
3 in 27, “
7 in 63, “
5 in 40, “
9 in 18, “
8 in 56, “
6 in 42, “
5 in 45, “

9 in 54, how many times?
3 in 21, “
7 in 56, “
8 in 48, “
9 in 45, “
2 in 14, “
6 in 48, “
8 in 32, “
4 in 28, “

6 in 30, how many times?
9 in 36, “
5 in 30, “
4 in 24, “
2 in 6, “
7 in 14, “
5 in 10, “
7 in 35, “
4 in 12, “

3 in 24, how many times?
2 in 16, “
4 in 32, “
6 in 24, “
7 in 7, “
2 in 10, “
5 in 20, “
4 in 8, “
5 in 10, “

LESSON XII.

PROMISCUOUS QUESTIONS.

1. Sarah learned 32 lessons in 8 days; how many lessons did she learn each day?

2. If a horse travels 63 miles in 7 hours, how many miles does he travel in one hour?

3. If 9 men consume 81 pounds of bread in a week, how much would one man consume?

4. How long will it take 6 men to do a piece of work, that one man can do in 48 days?

5. If 90 bushels of apples will make 10 barrels of cider, how many bushels will make one barrel of cider?

6. How long will it take a man to build 72 feet of wall, if he builds 9 feet a day?

7. How long would it take a steamboat to go 70 miles, at the rate of 10 miles an hour?

8. How many sheep, at 3 dollars a head, can be bought for 27 dollars?

9. How long will 45 dollars pay for keeping a horse, at the rate of 5 dollars a month?

10. A boy divided 36 cents, equally, among 4 beggars; how many cents did he give to each?

11. At 6 cents a pound, how many pounds of rice can I buy for 42 cents?

12. At 7 dollars a rod, how many rods of fence can be built for 49 dollars?

13. There are 7 days in a week; how many weeks are there in 56 days?

14. If 5 men can build a wall in 8 days, how long will it take 1 man to build it?

15. If I pay 4 dollars for a ton of coal, how many tons can I buy for 32 dollars?

16. If you have 72 pounds of butter, which you wish to put in 9 boxes, how much must you put in each box?

17. A farmer sold 8 cords of wood for 48 dollars; how much did he receive a cord?

18. If a cabinet-maker sells 6 chairs for 54 dollars, what would be the cost of 9 chairs?

19. If ten pounds of tea cost 60 shillings, what will 5 pounds cost?

20. If 4 men can hoe a field of corn in 3 days, how long will it take 1 man to hoe it.

21. If a boy travels 64 miles in 8 days, how far will he travel in 5 days?

22. If a piece of cloth containing 22 yards will make 11 coats, how many yards will it take to make 9 coats?

23. How many pounds of honey, at 9 cents a pound, can you buy for 108 cents?

24. What will 15 pounds of cheese cost, if 8 pounds cost 40 cents?

25. A grocer has 64 pounds of tea, which he wishes to put into parcels of 8 pounds each; how many parcels will he have?

LESSON XIII.

1. How many melons, at 6 cents apiece, will pay for 9 oranges, at 4 cents apiece?

ANALYSIS.—*Nine oranges, at* 4 *cents apiece, cost* 36 *cents: As many melons can be bought for* 36 *cents as* 6 *is contained times in* 36: 6 *in* 36, 6 *times: Therefore,* 6 *melons, at* 6 *cents apiece, will pay for* 9 *oranges, at* 4 *cents apiece.*

2. How many yards of cloth, at 3 dollars a yard, can be bought for 4 barrels of flour, at 6 dollars a barrel?

3. A grocer sold 9 pounds of tea, at 7 cents a pound, and took his pay in eggs, at 9 cents a dozen; how many dozen did he receive?

4. Harry has lemons worth 4 cents apiece; how many must he give John for 2 quarts of cherries, worth 8 cents a quart?

5. William worked 6 days, at 10 cents a day, and took his pay in oranges, worth 5 cents apiece; how many did he receive?

6. If a family of 6 persons have provisions for 8 weeks, how long will it last 1 person?

7. A butcher sold a baker 9 pounds of beef, at 8 cents a pound, and took his pay in bread, at 12 cents a loaf; how many loaves did he receive?

8. If 3 weeks' board costs 18 dollars, what will 9 weeks' board cost, at the same rate?

9. How much sugar, at 9 cents a pound, must be given for 9 dozen of eggs, at 10 cents a dozen?

10. How many barrels of flour, at 8 dollars a barrel, must be given for 10 sheep, at 4 dollars apiece?

11. How many yards of cloth, at 3 dollars a yard, must be given for 6 calves, at 9 dollars apiece?

12. How many bushels of wheat, at 2 dollars a bushel, must be given for 2 barrels of sugar, worth 16 dollars a barrel?

13. A man wishes to exchange 20 sheep, worth 3 dollars apiece, for calves worth 5 dollars apiece; how many calves should he receive?

14. If 2 apples are worth 10 chestnuts, how many chestnuts will 20 apples buy?

15. Six lemons are worth 24 apples; how many lemons will 16 apples buy?

16. How many yards of cloth, at 4 dollars a yard, can be bought for 12 calves, at 3 dollars apiece?

17. John wishes to exchange hens, worth 2 shillings apiece, for 12 ducks, worth 3 shillings apiece; how many hens must he give for the ducks?

18. How many sheep, worth 4 dollars apiece, must be given for 6 calves, worth 6 dollars apiece?

19. A grocer sold 12 pounds of tea, at 6 shillings a pound, and took his pay in wheat, at 9 shillings a bushel; how many bushels did he receive?

LESSON I.

1. If an orange be divided into two equal parts, each of the parts is called, *one-half.*

2. If an orange be divided into three equal parts, each of the parts is called, *one-third.*

3. If an orange be divided into four equal parts, each of the parts is called, *one-fourth.*

4. If an orange be divided into five equal parts, each of the parts is called, *one-fifth.*

5. If an orange be divided into 6 equal parts, each of the parts is called, *one-sixth.*

6. If an orange be divided into 7 equal parts, each of the parts is called, *one-seventh.*

7. If an orange be divided into 8 equal parts, each of the parts is called, *one-eighth.*

8. If an orange be divided into 9 equal parts, each of the parts is called, *one-ninth.*

9. If an orange be divided into 10 equal parts, each of the parts is called, *one-tenth.*

These equal parts of the orange, are called *Fractions.* They are thus written:

One-half	$\frac{1}{2}$	One-seventh	$\frac{1}{7}$
One-third	$\frac{1}{3}$	One-eighth	$\frac{1}{8}$
One-fourth	$\frac{1}{4}$	One-ninth	$\frac{1}{9}$
One-fifth	$\frac{1}{5}$	One-tenth	$\frac{1}{10}$
One-sixth	$\frac{1}{6}$	One-twelfth	$\frac{1}{12}$

The number above the line, is called the *numerator;* and the number below the line, is called the *denominator.*

10. How many halves are there in one orange?
How many thirds are there in one orange?
How many fourths are there in one orange?
How many fifths are there? How many sixths?
How many sevenths? How many eighths?
How many ninths? How many tenths?

11. Which is the greater, one orange or one-half of an orange?
Which is the greater, one-half or one-third?
Which is the greater, one-fourth or one-third?
Which is the greater, one-fourth or one-fifth?
Which is the greater, one-sixth or one-fifth?
Which is the greater, one-sixth or one-seventh?
Which is the greater, one-eighth or one-half?
Which is the greater, one-third or one-tenth?

LESSON II.

1. How many halves of one orange are there in two oranges?

ANALYSIS.—*In* 2 *oranges, there are two times as many halves as in* 1 *orange; in* 1 *orange there are* 2 *halves: Therefore, in* 2 *oranges there are two times* 2 *halves, or* 4 *halves.*

2. How many halves of one orange are there in 3 oranges? How many in 4 oranges? In 5?

3. How many halves of one orange are there in 7 oranges? How many in 8 oranges? In 10?

The halves are thus written:

Two-halves . .	$\frac{2}{2}$	Ten-halves . .	$\frac{10}{2}$
Three-halves . .	$\frac{3}{2}$	Twelve-halves	$\frac{12}{2}$
Four-halves . .	$\frac{4}{2}$	Sixteen-halves .	$\frac{16}{2}$
Five-halves . .	$\frac{5}{2}$	Eighteen-halves .	$\frac{18}{2}$
Seven-halves. .	$\frac{7}{2}$	Twenty-halves .	$\frac{20}{2}$

4. How many halves of 1 are there in 2?
5. How many halves of 1 are there in 6? In 7?
6. How many halves of 1 are there in 9? In 10?
7 How many halves of 1 are there in 3? In 8?
8. How many halves of 1 are there in 5? In 4?

9. How many oranges are equal to 8 halves?

ANALYSIS.—*Since* 2 *halves are equal to* 1 *orange, there will be as many oranges in* 8 *halves as* 2 *is contained times in* 8: 2 *in* 8, 4 *times: Therefore,* 8 *halves are equal to* 4 *oranges.*

10. How many apples are equal to 2 halves?
11. How many apples are equal to 4 halves?
12. How many pears are equal to 8 halves?
13. How many melons are equal to 20 halves?
14. How many peaches are equal to 16 halves?
15. How many plums are equal to 18 halves?
16. How many plums are equal to 14 halves?
17. How many lemons are equal to 12 halves?
18. How many lemons are equal to 18 halves?
19. How many pears are equal to 10 halves?
20. How many plums are equal to 8 halves?
21. How many units 1 are there in 6 halves?
22. How many units 1 are there in 12 halves?
23. How many units 1 are there in 14 halves?
24. How many units 1 are there in 18 halves?
25. How many units 1 are there in 20 halves?
26. How many units 1 are there in 16 halves?
27. How many units 1 are there in 18 halves?
28. How many units 1 are there in 6 halves?
29. How many units 1 are there in 2 halves?

LESSON III.

1. How many thirds of an orange are there in 4 oranges?

Analysis.—*In* 4 *oranges there are* 4 *times as many thirds as in* 1 *orange: in* 1 *orange there are* 3 *thirds: Therefore, in* 4 *oranges there are* 4 *times* 3 *thirds, which are* 12 *thirds.*

2. How many thirds of an orange are there in 2 oranges?

How many thirds are there in 3 oranges? In 4?

How many thirds of 1 are there in 2? In 6?

How many thirds of 1 are there in 4? In 5?

3. How many whole oranges are equal to 9 thirds?

Analysis.—*Since* 3 *thirds of an orange are equal to* 1 *orange, there will be as many oranges in* 9 *thirds as* 3 *is contained times in* 9*:* 3 *in* 9, 3 *times: Therefore,* 9 *thirds are equal to* 3 *oranges.*

4. How many oranges are equal to 12 thirds?

How many oranges are equal to 15 thirds?

How many units 1 are equal to 21 thirds?

5. How many units 1 are equal to 27 thirds?

How many units 1 are there in 3 thirds?

How many units 1 are there in 9 thirds?

LESSON IV.

1. How many fourths of a lemon are there in 3 lemons?

Analysis.—*In 3 lemons there are 3 times as many fourths as in 1 lemon: in 1 lemon there are 4 fourths: Therefore, in 3 lemons there are 3 times 4 fourths, which are 12 fourths.*

2. How many fourths of a lemon are there in 2 lemons? In 3? In 4?

How many fourths are there in 6 lemons?

How many fourths of 1 are there in 5? In 7?

3. How many whole lemons are equal to 8 fourths?

Analysis.—*Since 4 fourths of a lemon are equal to 1 lemon, there will be as many lemons in 8 fourths as 4 is contained times in 8: 4 in 8, 2 times: Therefore, eight fourths are equal to 2 lemons.*

4. How many lemons are equal to 12 fourths?

How many lemons are equal to 16 fourths?

How many lemons are equal to 32 fourths?

5. How many lemons are equal to 36 fourths?

How many units 1 are equal to 4 fourths?

How many units 1 are equal to 20 fourths?

LESSON V.

1. How many fifths of an orange are there in 2 oranges?

Analysis.—*In* 2 *oranges there are* 2 *times as many fifths as in* 1 *orange: in* 1 *orange there are* 5 *fifths: Therefore, in* 2 *oranges there are* 2 *times* 5 *fifths, which are* 10 *fifths.*

How many fifths of 1 are there in 3? In 4?
How many fifths of 1 are there in 5? In 6?

2. How many units 1 are there in 20 fifths?

Analysis.—*In* 1 *there are* 5 *fifths: in* 20 *fifths there are as many units* 1 *as* 5 *is contained times in* 20: 5 *in* 20, 4 *times: Therefore, there are* 4 *units* 1 *in* 20 *fifths.*

3. How many units 1, in 45 fifths? In 60 fifths?

4. How many fifths of 1, in 6? In 7? In 8?

5. How many sixths of an orange are there in 2 oranges? In 4? In 5?

How many sixths of 1, in 2? How many in 3?
How many oranges are equal to 24 sixths?
How many units 1, in 36 sixths? In 42 sixths?
How many units 1, in 48 sixths? In 54 sixths?
How many sixths of 1, in 12? In 8? In 9?
How many sixths are there in 7? In 12?

6. How many sevenths of an orange are there in 3 oranges?

How many sevenths of 1, in 3? In 7? In 9?
How many sevenths of 1, in 4? In 5? In 8?
How many oranges are equal to 21 sevenths?
How many units 1 are there in 21 sevenths?
How many units 1, in 35 sevenths?

7. How many eighths of an orange are there in 2 oranges?

How many eighths of 1 are there in 2? In 3?
How many eighths of 1 are there in 4? In 5?
How many oranges are equal to 24 eighths?
How many units 1, in 24 eighths? In 40 eighths?

8. How many ninths of an orange are there in 3 oranges?

How many ninths of 1 are there in 3?
How many ninths of 1 are there in 4? In 5?
How many oranges are equal to 18 ninths?
How many oranges are equal to 27 ninths?
How many units 1 are equal to 36 ninths?

9. How many tenths of an orange are there in 2 oranges?

How many tenths of 1 are there in 3? In 4?
How many tenths of 1 are there in 5? In 6?
How many tenths of 1 are there in 7? In 8?
How many oranges are equal to 30 tenths?
How many units 1 are equal to 40 tenths?
How many units 1 are equal to 60 tenths?
How many units 1 are equal to 70 tenths?

LESSON VI.

1. If 1 pound of tea costs one-half of a dollar, what will 4 pounds cost?

Analysis.—*Four pounds of tea will cost* 4 *times as much as* 1 *pound. Since* 1 *pound costs one-half of a dollar*, 4 *pounds will cost* 4 *half-dollars, which are equal to* 2 *dollars: Therefore, if one pound of tea costs half a dollar*, 4 *pounds will cost* 2 *dollars.*

2. If a bushel of apples costs one-third of a dollar, what will 9 bushels cost?

3. If John pays one-fourth of a dollar for a penknife, how much must he pay for 8 penknives, at the same rate?

4. If a yard of calico costs one-fifth of a dollar, how much will 20 yards cost?

5. What will 8 barrels of flour cost, if one-sixth of a barrel costs 2 dollars?

6. If 1 pound of sugar costs one-eighth of a dollar, what will 16 pounds cost?

7. If one-ninth of a piece of cloth contains 5 yards, how many yards are there in the whole piece?

8. If 1 bushel of wheat costs one-tenth of a dollar, what will be the cost of 40 bushels?

9. If a bushel of corn costs one-fifth of a dollar, what will be the cost of 15 bushels?

10. If half an ox is valued at 50 dollars, what is the value of the ox?

11. If one-fourth of a bushel of peaches costs 4 shillings, how many shillings will 2 bushels cost?

12. If a man earns 3 dollars in one-fifth of a month, how much will he earn in 2 months?

13. If one-seventh of a yard of silk costs 10 cents, how much is that a yard?

14. If one-eighth of a pound of tea costs 7 cents, how much is that a pound?

15. If one-eighth of a piece of cloth contains 4 yards, how many yards are there in the piece?

16. If a man earns 3 dollars in one-tenth of a month, how much will he earn in 2 months?

17. If one-fifth of a barrel of flour lasts a family 8 days, how long will 2 barrels last them?

18. If one-third of a cheese is worth 2 dollars, what is the value of the whole cheese?

19. If one-eighth of a barrel of apples is worth 2 shillings, how many shillings are 3 barrels worth?

20. If in one-tenth of a month, a man earns 2 dollars, how much can he earn in 3 months?

21. If two cents pays for one-eighth of a melon, how many cents will buy 2 melons?

22. If 3 cents pays for one-fourth of a dozen of eggs, what will 4 dozen cost?

23. If one-ninth of a piece of cloth contains 5 yards, how many yards will 4 pieces of the same length contain?

UNITS OF ABSTRACT NUMBERS.

10 units make	1 ten.
10 tens	1 hundred.
10 hundreds	1 thousand.

The abstract units are, 1, 10, 100, 1,000, &c.

UNITS OF CURRENCY.

UNITED STATES MONEY.

10 mills make	1 cent,	*ct.*
10 cents	1 dime,	*d.*
10 dimes	1 dollar,	$.
10 dollars	1 eagle,	*E.*
20 dollars	1 double eagle,	*D. E.*

The units of this currency are, 1 mill, 1 cent, 1 dime, 1 dollar, and 1 eagle.

$1	= 100	cents.	$\frac{1}{8}$ of a dollar	= $12\frac{1}{2}$	cents.
$\frac{1}{2}$ of a dollar	= 50	"	$\frac{1}{10}$ of a dollar	= 10	"
$\frac{1}{3}$ of a dollar	= $33\frac{1}{3}$	"	$\frac{1}{16}$ of a dollar	= $6\frac{1}{4}$	"
$\frac{1}{4}$ of a dollar	= 25	"	$\frac{1}{20}$ of a dollar	= 5	"
$\frac{1}{5}$ of a dollar	= 20	"	$\frac{1}{2}$ of a cent	= 5	mills.

ENGLISH STERLING MONEY.

4 farthings make	1 penny,	*d.*
12 pence	1 shilling,	*s.*
20 shillings	1 pound,	£.
21 shillings	1 guinea.	

The units of this currency are, 1 farthing, 1 penny, 1 shilling, 1 pound, and 1 guinea.

UNITS OF LENGTH.

LINEAR MEASURE.

12	inches, *in.* make	1 foot,	*ft.*
3	feet	1 yard,	*yd.*
5½	yards, or 16½ feet	1 rod,	*rd.*
40	rods	1 furlong,	*fur.*
8	furlongs, or 320 rods	1 mile,	*m.*
3	miles	1 league,	*L.*
60	geographical, or 69½ statute miles	1 degree,	*deg.*, or °.

What are the units of this measure?

CLOTH MEASURE.

2¾	inches, *in.* make	1 nail,	*na.*
4	nails	1 quarter of a yard,	*qr.*
4	quarters	1 yard,	*yd.*
3	quarters	1 Ell Flemish,	*E. Fl.*
5	quarters	1 Ell English,	*E. E.*

What are the units of this measure?

UNITS OF SURFACE.

SQUARE MEASURE.

144	square inches, *sq. in.* make	1 square foot,	*sq. ft.*
9	square feet	1 square yard,	*sq. yd.*
30¼	square yards	1 square rod,	*P.*
40	square rods	1 rood,	*R.*
4	roods	1 acre,	*A.*
640	acres	1 square mile,	*M.*

What are the units of this measure?

UNITS OF VOLUME.

CUBIC MEASURE.

1728 cubic inches, *cu. in.* make	1 cubic foot,	*cu. ft.*
27 cubic feet	1 cubic yard,	*cu. yd.*
40 feet of round, or 50 feet of hewn timber	1 ton,	*T.*
42 cubic feet	1 ton of shipping,	*T.*
16 cubic feet	1 cord foot,	*c. ft.*
8 cord feet, or 128 cubic feet	1 cord,	*C.*

What are the units of this measure?

LIQUID MEASURE.

4 gills, *gi.* make	1 pint,	*pt.*
2 pints	1 quart,	*qt.*
4 quarts	1 gallon,	*gal.*
$31\frac{1}{2}$ gallons	1 barrel,	*bar.*
63 gallons	1 hogshead,	*hhd.*
2 hogsheads	1 pipe,	*pi.*
2 pipes, or 4 hogsheads	1 tun,	*tun.*

What are the units of this measure?

DRY MEASURE.

2 pints, *pt.* make	1 quart,	*qt.*
8 quarts	1 peck,	*pk.*
4 pecks	1 bushel,	*bu.*
36 bushels	1 chaldron,	*ch.*

What are the units of this measure?

Units of Weight.

Avoirdupois Weight.

16 drams, *dr.* make	1 ounce,	*oz.*
16 ounces	1 pound,	*lb.*
25 pounds	1 quarter,	*qr.*
4 quarters	1 hundredweight,	*cwt.*
20 hundredweight	1 ton,	*T.*

What are the units of this weight?

Troy Weight.

24 grains, *gr.* make	1 pennyweight,	*pwt.*
20 pennyweights	1 ounce,	*oz.*
12 ounces	1 pound,	*lb.*

Apothecaries' Weight.

20 grains, *gr.* make	1 scruple,	℈.
3 scruples	1 dram,	ʒ.
8 drams	1 ounce,	℥.
12 ounces	1 pound,	℔.

Units of Time.

60 seconds, *sec.* make	1 minute,	*m.*
60 minutes	1 hour,	*hr.*
24 hours	1 day,	*da.*
7 days	1 week,	*wk.*
4 weeks	1 month,	*mo.*
52 weeks	1 year,	*yr.*
100 years	1 century,	*C.*

What are the units of time?

The Year.

Winter,	1	month,	January,	31 days.
	2	"	February,	28, in leap-year, 29.
Spring,	3	"	March,	31 days.
	4	"	April,	30 "
	5	"	May,	31 "
Summer,	6	"	June,	30 "
	7	"	July,	31 "
	8	"	August,	31 "
Autumn,	9	"	September,	30 "
	10	"	October,	31 "
	11	"	November,	30 "
Winter,	12	"	December,	31 "

There are, in the year, . . 365 days.

Units of Circular Measure.

60 seconds, ″ make . .	1 minute, . . .	′.
60 minutes	1 degree, . . .	°.
30 degrees	1 sign, ...	s.
12 signs, or 360° . . .	1 circle, ...	c.

Miscellaneous Table.

12 units, or things, make .	1 dozen.
12 dozen	1 gross.
12 gross, or 144 dozen . .	1 great gross.
20 things	1 score.
196 pounds	1 barrel of flour.
24 sheets of paper . . .	1 quire.
20 quires	1 ream.

MULTIPLICATION TABLE.

The Multiplication Table, as far as 12, should be *perfectly* learned by every pupil. Every combination should be so familiar as to be made without the least hesitation or delay. The time and labor, necessary to accomplish this most desirable object, should be cheerfully bestowed, both by teacher and pupil.

1	2	3	4	5	6	7	8	9	10	11	12
2	4	6	8	10	12	14	16	18	20	22	24
3	6	9	12	15	18	21	24	27	30	33	36
4	8	12	16	20	24	28	32	36	40	44	48
5	10	15	20	25	30	35	40	45	50	55	60
6	12	18	24	30	36	42	48	54	60	66	72
7	14	21	28	35	42	49	56	63	70	77	84
8	16	24	32	40	48	56	64	72	80	88	96
9	18	27	36	45	54	63	72	81	90	99	108
10	20	30	40	50	60	70	80	90	100	110	120
11	22	33	44	55	66	77	88	99	110	121	132
12	24	36	48	60	72	84	96	108	120	132	144

Find from the table, the product of 8 by 7 ? 9 by 12 ?
Find the product of 3 by 11 ? 11 by 9 ? 12 by 11 ?

READING FIGURES.

LESSON I.

SUGGESTIONS.

Pupils, in Arithmetic, should be taught, from the very commencement, to *read* the figures. By reading, we mean the use of those words only which declare the final results.

For example, 2 and 2 are 4. The word, *four* names the *result* arising from adding 2 and 2 together; we generally *spell* this word by saying, *two* and *two*, are *four*. The pupil should be taught to *read*, and say, *four*.

Hence, after having taught the combinations in addition, in the usual way, as 1 and 1 are two; 1 and 2 are three, &c., let each set of combinations be written separately on the blackboard, as on the following page.

Let the teacher then take a pointer, and beginning at the right hand, point to the figures 1 and 0, and let the whole class answer, *one*. Let him then point to the figures 1 and 1, and let the class answer, *two;* and so on, for the entire table. Let each set of combinations be read in the same manner.

This reading will save the use of *four* words in each combination. Thus, instead of saying 1 and 6 are *seven*, the eye glances at 1 and 6, and *seven* is uttered immediately. The drill of the class should be continued until all the combinations can be read by the eye. Let each of the ten sets be taught in the same manner—and *thoroughly taught*. Let similar readings be made in Subtraction, Multiplication, and Division.

LESSON II.

READING AS FAR AS TWENTY.

10	9	8	7	6	5	4	3	2	1	0
1	1	1	1	1	1	1	1	1	1	1
10	9	8	7	6	5	4	3	2	1	0
2	2	2	2	2	2	2	2	2	2	2
10	9	8	7	6	5	4	3	2	1	0
3	3	3	3	3	3	3	3	3	3	3
10	9	8	7	6	5	4	3	2	1	0
4	4	4	4	4	4	4	4	4	4	4
10	9	8	7	6	5	4	3	2	1	0
5	5	5	5	5	5	5	5	5	5	5
10	9	8	7	6	5	4	3	2	1	0
6	6	6	6	6	6	6	6	6	6	6
10	9	8	7	6	5	4	3	2	1	0
7	7	7	7	7	7	7	7	7	7	7
10	9	8	7	6	5	4	3	2	1	0
8	8	8	8	8	8	8	8	8	8	8
10	9	8	7	6	5	4	3	2	1	0
9	9	9	9	9	9	9	9	9	9	9
10	9	8	7	6	5	4	3	2	1	0
10	10	10	10	10	10	10	10	10	10	10

LESSON III.

READING WITH THE LARGER NUMBERS.

10	9	8	7	6	5	4	3	2	1	0
10	10	10	10	10	10	10	10	10	10	10
10	9	8	7	6	5	4	3	2	1	0
11	11	11	11	11	11	11	11	11	11	11
10	9	8	7	6	5	4	3	2	1	0
12	12	12	12	12	12	12	12	12	12	12
10	9	8	7	6	5	4	3	2	1	0
13	13	13	13	13	13	13	13	13	13	13
10	9	8	7	6	5	4	3	2	1	0
14	14	14	14	14	14	14	14	14	14	14
10	9	8	7	6	5	4	3	2	1	0
15	15	15	15	15	15	15	15	15	15	15
10	9	8	7	6	5	4	3	2	1	0
16	16	16	16	16	16	16	16	16	16	16
10	9	8	7	6	5	4	3	2	1	0
17	17	17	17	17	17	17	17	17	17	17
10	9	8	7	6	5	4	3	2	1	0
18	18	18	18	18	18	18	18	18	18	18
10	9	8	7	6	5	4	3	2	1	0
19	19	19	19	19	19	19	19	19	19	19

LESSON IV.

READING BY THE EYE ABOVE TWENTY.

10	9	8	7	6	5	4	3	2	1	0
20	20	20	20	20	20	20	20	20	20	20
10	9	8	7	6	5	4	3	2	1	0
21	21	21	21	21	21	21	21	21	21	21
10	9	8	7	6	5	4	3	2	1	0
22	22	22	22	22	22	22	22	22	22	22
10	9	8	7	6	5	4	3	2	1	0
23	23	23	23	23	23	23	23	23	23	23
10	9	8	7	6	5	4	3	2	1	0
24	24	24	24	24	24	24	24	24	24	24
10	9	8	7	6	5	4	3	2	1	0
25	25	25	25	25	25	25	25	25	25	25
10	9	8	7	6	5	4	3	2	1	0
26	26	26	26	26	26	26	26	26	26	26
10	9	8	7	6	5	4	3	2	1	0
27	27	27	27	27	27	27	27	27	27	27

☞ Let the Teacher write, in succession, on the blackboard, all the numbers to 100, in sets of ten, and *exercise the class in the readings.*

LESSON V.

READING COLUMNS OF THE SAME FIGURES.

1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10

Ten times 1, are how many? Ten times 2, are how many? Ten times 3? Ten times 4? Ten times 5? Ten times 6? Ten times 7? Ten times 8? Ten times 9? Ten times 10?

Read the following:

1	3	2	0	2	7	3	4	0	2
2	5	1	1	4	8	0	9	9	0
3	2	3	6	0	9	4	6	4	6
0	9	4	7	1	7	0	0	7	3
1	1	2	9	2	3	1	2	0	2
3	4	0	1	3	1	2	1	2	0
1	4	9	6	0	1	2	9	3	1
4	8	1	2	3	0	4	6	7	0
3	0	2	6	7	0	3	0	8	0

LESSON VI.

EXAMPLES IN READING LONG COLUMNS.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
0	5	7	3	1	7	6	9
1	4	9	0	0	0	9	8
2	0	8	7	5	5	8	7
4	1	9	3	9	9	4	3
8	7	7	5	7	0	5	2
0	8	6	6	6	7	6	0
7	9	9	8	3	6	7	9
8	6	4	0	2	3	8	8
10	3	0	1	4	2	3	7
6	5	2	2	9	1	2	6

(9)	(10)	(11)	(12)	(13)
22	123	1046	421	3407
45	241	3072	604	2741
46	607	9084	321	2897
47	327	3605	391	3160
87	416	2197	407	2987
10	704	3208	706	3607
12	632	6784	306	3752
14	704	2104	401	8809
72	302	2742	272	9908

NOTE.—Let the pupil be here taught to set down and *carry*.

LESSON VII.

READING IN SUBTRACTION.

10 1	9 1	8 1	7 1	6 1	5 1	4 1	3 1	2 1	1 1
11 2	10 2	9 2	8 2	7 2	6 2	5 2	4 2	3 2	2 2
12 3	11 3	10 3	9 3	8 3	7 3	6 3	5 3	4 3	3 3
13 4	12 4	11 4	10 4	9 4	8 4	7 4	6 4	5 4	4 4
14 5	13 5	12 5	11 5	10 5	9 5	8 5	7 5	6 5	5 5
15 6	14 6	13 6	12 6	11 6	10 6	9 6	8 6	7 6	6 6
16 7	15 7	14 7	13 7	12 7	11 7	10 7	9 7	8 7	7 7
17 8	16 8	15 8	14 8	13 8	12 8	11 8	10 8	9 8	8 8
18 9	17 9	16 9	15 9	14 9	13 9	12 9	11 9	10 9	9 9
19 10	18 10	17 10	16 10	15 10	14 10	13 10	12 10	11 10	10 10

LESSON VIII.

COUNTING BY THE NUMBERS FROM 1 TO 10.

1. Count by the one's to 50. How many 1's are there?
2. Count by the 2's to 50. How many 2's are there?
3. Count by the 3's to 51. How many 3's are there?
4. Count by the 4's to 52. How many 4's are there?
5. Count by the 5's to 50. How many 5's are there?
6. Count by the 6's to 54. How many 6's are there?
7. Count by the 7's to 56. How many 7's are there?
8. Count by the 8's to 56. How many 8's are there?
9. Count by the 9's to 54. How many 9's are there?
10. Count by the 10's to 50. How many 10's are there?

1. Subtract 1 from each number, from 50 to 1.
2. Subtract 2 from 50, and then from each remainder.
3. Subtract 3 from 51, and then from each remainder.
4. Subtract 4 from 52, and then from each remainder.
5. Subtract 5 from 50, and then from each remainder.
6. Subtract 6 from 54, and then from each remainder.
7. Subtract 7 from 56, and then from each remainder.
8. Subtract 8 from 56, and then from each remainder.
9. Subtract 9 from 54, and then from each remainder.
10. Subtract 10 from 50, and then from each remainder.

1. Add 1 to 50, and to the sum, as far as 100.
2. Add 2 to 50, and to the sum, as far as 100.
3. Add 3 to 50, and to the sum, as far as 100.
4. Subtract 1 from each number from 100 down to 50.
5. Subtract 2 from each number from 100 down to 50.
6. Subtract 3 from each number from 100 down to 50.
7. Do the same in addition and subtraction, for each of the other numbers, as far as 10.

LESSON IX.

MULTIPLICATION BY THE EYE.

10	9	8	7	6	5	4	3	2	1	0
										1
10	9	8	7	6	5	4	3	2	1	0
										2
10	9	8	7	6	5	4	3	2	1	0
										3
10	9	8	7	6	5	4	3	2	1	0
										4
10	9	8	7	6	5	4	3	2	1	0
										5
10	9	8	7	6	5	4	3	2	1	0
										6
10	9	8	7	6	5	4	3	2	1	0
										7
10	9	8	7	6	5	4	3	2	1	0
										8
10	9	8	7	6	5	4	3	2	1	0
										9
10	9	8	7	6	5	4	3	2	1	0
										10

LESSON X.

DIVISION BY THE EYE.

1) 1 2 3 4 5 6 7 8 9 10

2) 2 4 6 8 10 12 14 16 18 20

3) 3 6 9 12 15 18 21 24 27 30

4) 4 8 12 16 20 24 28 32 36 40

5) 5 10 15 20 25 30 35 40 45 50

6) 6 12 18 24 30 36 42 48 54 60

7) 7 14 21 28 35 42 49 56 63 70

8) 8 16 24 32 40 48 56 64 72 80

9) 9 18 27 36 45 54 63 72 81 90

10) 10 20 30 40 50 60 70 80 90 100

(1)	(2)	(3)	(4)	(5)	(6)
2) 24	2) 36	2) 123	2) 428	2) 362	2) 486

(7)	(8)	(9)	(10)	(11)
4) 36	3) 126	3) 96	3) 42	3) 252

(12)	(13)	(14)	(15)	(16)
4) 48	4) 28	4) 248	4) 364	4) 316

LESSON XI.

DIVISION BY THE EYE.

(1) 1) 67
(2) 1) 45
(3) 1) 28
(4) 1) 29
(5) 1) 40

(6) 2) 16
(7) 2) 28
(8) 2) 64
(9) 2) 86
(10) 2) 90

(11) 3) 21
(12) 3) 66
(13) 3) 129
(14) 3) 672
(15) 3) 291

(16) 4) 124
(17) 4) 168
(18) 4) 484
(19) 4) 368

(20) 5) 105
(21) 5) 565
(22) 5) 360
(23) 5) 275

(24) 6) 216
(25) 6) 486
(26) 6) 504
(27) 6) 954

(28) 7) 217
(29) 7) 441
(30) 7) 966
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